

Oct 11

U/R

OK 9/16/17

Work Order ID 148126

148126

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Item ID: D119-646-041 Accept *N900040100* Setup Start *NS1*
 Revision ID: URF 15-560 Stop *NS2*
 Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
 Start Date: 9/19/2016 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 10/11/2016 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: dm Date: 16/06/24 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
----------	--------------

D3887-041	D
IIN-D119-646	C

100

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-041 CHG004

N/A

110

0.00

110

Skidtubes

Memo

0.00

Skidtubes

1- inspect Mat'L D2500-1-190 for damage
 2-Cut tube to length as per dwg D3887 (154.8")
 3- Ensure squareness of ends and scribe batch#

16-9-7 M.G. DAS
 19
 9-89

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Chemical Conversion Coat per QSI005 4.1	0.00				(X1)	0		2016/09/09 BFB
120 HandFinish Hand Finishing	Memo	0.00							
121	QC7-Inspect Chemical Conversion Coat	0.00				1	0	16-09-14	DAS 18 9-89
121 QC Quality Control	Memo	0.00							
122	QC5- Inspect part completeness to step on W/O	0.00				1	0	16-09-14	DAS 18 9-89
122 QC Quality Control	Memo	0.00							

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130									
Skidtubes	Memo	0.00							
Skidtubes	1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only.								
	2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.								
	3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477								
	4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes***								
	5- Deburr, blow out chips from inside of tube.								
	6- Bond web in place as per Dwg D3887 & QSI 015.								
	A/RSikaflex-291 <u>4135376</u>								
	Sikaflex expire date: <u>17-2-16</u>								
	Start: <u>8:00</u> Time: _____								
	Finish: <u>8:20</u> Time: _____								
	***** (Adhere for 12 hours) *****								

16-9-13 H.G.
DAS
19
9-89

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Required Date: 10/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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135	QC5- Inspect part completeness to step on W/O	0.00							
-----	---	------	--	--	--	--	--	--	--

135

QC

Memo

0.00

Quality Control

DAS
18
9-891 0 1609-19

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
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Start Date: 9/19/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 10/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140

0.00

140

0.00

Skidtubes

Skidtubes

Memo

- 1- Bend FWD end of tube using bender 1 and FOLIO 31 bend prog. D3887.***Must use bending aid DT9544, ensure proper positioning***
- 2- Cut FWD end of tube as per dwg D3887.***Verify measurment***
- 3- Buff out marks left from bending
- 4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208"
- 5- Open FWD saddle holes to finished size as per dwg D3887
- 6- Drill FWD x-bolt spacer holes using DT9816 and open to finished size.(verify measurement)
- 7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify measurement). Open to finished size.
- 8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg.
- 9- C'sink FWD cap hole as per detail "C"
- 10- Drill holes for wearpads using DT8931, open to 0.297".
- 11- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.
- 12- Deburr and blow out chips from inside of tube.

16-9-20 JH/JW

16-9-21 JH

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Required Date: 10/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

DAS
18
9-891 16-09-23

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
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Required Date: 10/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							
160									
Skidtubes	Memo	0.00							
Skidtubes	NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDELING FIXTURE,IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091.								
	1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/RAluminum Rod <i>m134826</i>								
	2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole.								
	3-Counterbore 5/16" x 0.750" deep as per Dwg D3887.								
	4- Deburr & Scribe batch # on Aft end of tube.								
170	QC5- Inspect part completeness to step on W/O	0.00							
170									
QC	Memo	0.00							
Quality Control	TEST FIT USING FIXTURE DT10091.								

*7 DE 16-09-26**7 DE 16-09-26*DAS
38
9-88
SEP 29 2016

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Item ID: D119-646-041

Revision ID: URF 15-560

Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 9/19/2016 Start Qty: 1.00 *1*

Required Date: 10/11/2016 Req'd Qty: 1.00 *1*

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	QC10- Inspect visual per QSI004- ground welds	0.00							
180									
QC	Memo	0.00							DAS 38 9-29
Quality Control									SEP 29 2016
190	Pressure Wash per QSI005 4.3	0.00							
190									
HandFinish	Memo	0.00							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								
200	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
200									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 12:50 OVEN TEMPERATURE: 300 FINISH TIME: 1:20								

SEE
Attached

1 x d 16/09/29 DAS 34

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC3- Inspect Part Finish	0.00							
210									
QC	Memo	0.00							
Quality Control									
220		0.00							
220									
HandFinish	Memo	0.00							
Hand Finishing	1-Install inserts as per Dwg D3887.								
230		0.00							
230									
QC	Memo	0.00							
Quality Control									

QC5- Inspect part completeness to step on W/O

QC

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240		0.00							
240 HandFinish Hand Finishing	 SEE Attached Memo 1-Install wearpads, gaskets as per Dwg D3887. Put sikaflex in insert before installing bolts and washers A/R Sikaflex-240/-291 <u>M135376</u> Sikaflex expire date: <u>16112</u> 2-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: <u>M135473</u> RTU 598 M135426 16110 3 -Inspect for foreign objects as per QSI 024 4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 <u>M135376</u> Sikaflex expire date: <u>16112</u>	0.00							
245	QC5- Inspect part completeness to step on W/O	0.00							
245 QC Quality Control	Memo	0.00							 38 9-89 OCT 06 2016

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
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Required Date: 10/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250 *250* HandFinish Hand Finishing	Wing Walk as per dwg QSI005 4.4 Batch <u>ML35510</u> Memo	0.00 0.00				<u>12</u>	<u>0</u>	<u>22 16/10/15</u>	
251 *251* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<u>1</u>		<u>38</u> DAS 9-89 OCT 06 2015	
260 *260* Packaging Packaging	Identify as per dwg & Stock Location <u>22/0</u> Memo <u>148085</u>	0.00 0.00				<u>0X</u>		<u>16/10/15</u> DAS 36 9-89	

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
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Required Date: 10/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	QC21 - Final Inspection - Work Order Release	0.00							
270									
QC	Memo	0.00							
Quality Control									

DAS
21
9-00

OCT 24 2016

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Work Order ID: 148126

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 9/19/2016

Required Date: 10/11/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC IPP rev B
10.02.22 per PAR 09-043 EC verified by:DD IPP REVC 12.11.05
(DEOD3887-B-1)(ecn 12-675) DD verf:JLM IPP REV:D 13.03.20 per
chg003 ECN13-534 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2500-1-190 *D2500-1-190* Ext'n - 1" Beam Tube 4"		Manufactured	No			110	Each	30.0000	1	1			
									**			16-9-7 UG	
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					LG002 145247			30				1	
					140538			30					
D2579 *D2579* Crossbolt Spacer		Manufactured	No			140	Each	177.0000	2	2			
									**			BE 16-09-23	
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					LG001			177					
					123997			1					
					141711			176				2	
D2855-3 *D2855-3* Cap		Manufactured	No			240	Each	1.0000	2	2			
									**			del 16/10/15	
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					FP001			1				x2	
					137525			1		B 142564			

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 9/19/2016

Required Date: 10/11/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1611-005

Purchased

No

240

Each

407.0000

16

16

NAS1611-005******

O-RING

LocationLoc QtyLoc Code

FP001

407

M135465

m129198

11

x16

m133498

196

m134816

200

D3492-5

Manufactured

No

240

Each

196.0000

16

16

D3492-5******

Plug

LocationLoc QtyLoc Code

FP001

196

B145446

133396

8

x16

136396

6

138198

2

142818

180

D3672-1

Manufactured

No

240

Each

1,016.000

2

2

D3672-1******

Washer, Phenolic

LocationLoc QtyLoc Code

FG

10

85222

10

FP001

14

112218

14

ST049

492

134785

492

ST051A

500

x2

147077

500

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 9/19/2016

Required Date: 10/11/2016

Start Qty: 1.00

Required Qty: 1.00

D3681-1

Manufactured No

160

Each

70.0000

8

8

D3681-1

Spacer

BE16-09-23
B148201 *8

Location

Loc Qty

Loc Code

LG001

70

142904

70

D3847-1

Manufactured No

240

Each

51.0000

5

5

D3847-1

Wearpad

all 16/10/15

Location

Loc Qty

Loc Code

FP001

51

138338

10

142745

25

142854

2

146614

14

B145859

x4

B148686

x1

D3847-11

Manufactured No

240

Each

38.0000

1

1

D3847-11

Wearpad

all 16/10/15

Location

Loc Qty

Loc Code

FP001

38

138418

1

142783

24

146945

13

x1

D3885-1

Manufactured No

140

Each

19.0000

1

1

D3885-1

Standard Web

16-9-14 M.G

Location

Loc Qty

Loc Code

LG002

19

142573

19

1

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Start Date: 9/19/2016

Required Date: 10/11/2016

Start Qty: 1.00

Required Qty: 1.00

D3903-1 Manufactured No 160 Each 213.0000 12 12

D3903-1

Spacer

**

BE 16-09-23
B 148673 x 12

Location

Loc Qty

Loc Code

LG001

213

142730

213

ALS4-1032-130 AELS4-1032-130 Purchased No

220 Each 3,138.000 30 30

ALS4-1032-130

Rivnut

**

ll 16/10/15

Location

Loc Qty

Loc Code

CCK005

1596

M134502

1596

FP001

552

M133077

122

M134502

430

x32

ST556

990

M134502

990

AN3C5A Purchased No

240 Each 1,188.000 32 32

AN3C5A

Bolt

**

ll 16/10/15

Location

Loc Qty

Loc Code

FG

5

122800

5

M135297

x32

FP001

488

M134502

488

OVER002

300

M134955

300

ST350

395

M133234

1

M134676

394

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Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 9/19/2016

Required Date: 10/11/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

Each

5,760.000

32

NAS1149C0332R******

WASHER

*all 16/10/16*LocationLoc QtyLoc Code

FP001

1758

m132930

1004

*M135274**x32*

m134073

128

m134962

626

GA

141

m133284

141

ST266

3861

m134736

1861

m135046

2000

Each

69.0000

2

*******all 16/10/16*

MS24694-C52

Purchased

No

MS24694-C52

SCREW

LocationLoc QtyLoc Code

FP001

63

m127059

17

m133855

46

*M135466**x2*

ST287

6

124308

6

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DQA: _____ Date: _____



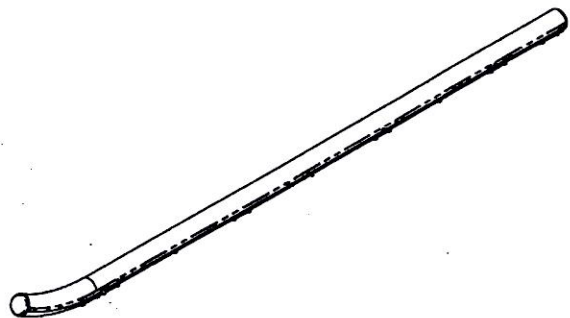
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified ☐	☐	Past Due	☐				



D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-1 WEB
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3887-041 = 32.0 lbs
D3887-043 = 37.0 lbs
D3887-045 = 38.1 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.187 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8931 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3887-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
2		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
3			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2579	CROSS BOLT SPACER
11	2	2	2	D2865-3	CAP
12	16	16		D3492-045	PLUG ASSY
13	2	2	2	D3672-1	PHENOLIC WASHER
14	8	8	8	D3681-1	SPACER
17	5	5		D3847-1	WEARPAD
18	1	1		D3847-11	AFT WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEARPLATE ASSY
21		1		D3847-047	AFT WEARPLATE ASSY
22			1	D3849-041	FWD TRAINING WEARPLATE ASSY
23			1	D3849-043	AFT WEARPLATE ASSY
24	1	1	1	D3885-1	STANDARD WEB
25	1	1		D3887-11	STANDARD SKIDTUBE
26			1	D3887-13	STANDARD SKIDTUBE
27	12	12	12	D3903-1	SPACER
28			16	D3904-1	WASHER
41	30	30		ALS4-1032-130	INSERT
42	32	32	2	AN3C5A	BOLT
43			8	AN3C46A	BOLT
44	32	32		NAS1149C0332R	WASHER (OR AN980C10L)
45			8	MS21043-3	NUT
46	2	2	2	MS24894-C52	SCREW

RELEASED

UNDER REVIEW

15.04.30 URF15-560 AP

2014 NOV 24

ECN 14-678

D	REVISED BEND TOLERANCES FOR MANUFACTURABILITY, 135.07 WAS 134.04 (ZN D5-8), ADD 5.07 (ZN C3-8), ADD 116.8 (ZN D5-8), DELETE GASKETS (BOM, SH 2)	DB	13.09.20
C	(SHT1, PL, ZN C2-2, C3-2, C4-2) ITEM 13, QTY 2 WAS 4, ITEM 42, QTY 32 WAS 34, ITEM 44, QTY 30 WAS 32, ADD ITEM 46, MS24894-C52 WAS AN3C5A, 2 PLCS (ZN C1-5, C1-6, B4-7) Ø0.291 CSK Ø0.385 X 100" WAS Ø0.214 THRU, ADDED DETAIL F (ZN C4-5, C5-6, B5-7), ADD ITEM 10, D2579 CROSS BOLT SPACER (ZN D4-1, A6-7)	DB	13.02.19
B	ALS4-1032-130 WAS AELS-1032-130 (ZN C4-1, C5-7, C3-7); ADD DT8931 (ZN A6-1); ADD 134.04 (ZN C4-8), D2865-3 WAS D2579 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C4A (ZN C6-2, C2-2, C5-3, C2-3, C6-4, C2-4), Ø0.313 WAS Ø0.328 (ZN C4-5, C4-5, C2-7 & B3-7) REVISED NOTE N (ZN B3-7)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 1 OF 8
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DE APPR.		A119 STD SKIDTUBE ASSY	NTS
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w/o 148126

dm 16/06/24

AN3C5A BOLT
D3872-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD

1.5
1.5
1.5
2.00 DISTANCE TO D3885-1 WEB, REF

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

11
Ø0.187
8 PL PER SIDE
REF

AN3C5A BOLT
NAS1149C0332R WASHER
24 PL

PLUG UNUSED INSERTS WITH
AN3C5A BOLT
NAS1149C0332R WASHER
8 PL

D3847-1
WEARPAD
5 PL

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24694-C52 SCREW
(1 PER SIDE)

D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3887-11)

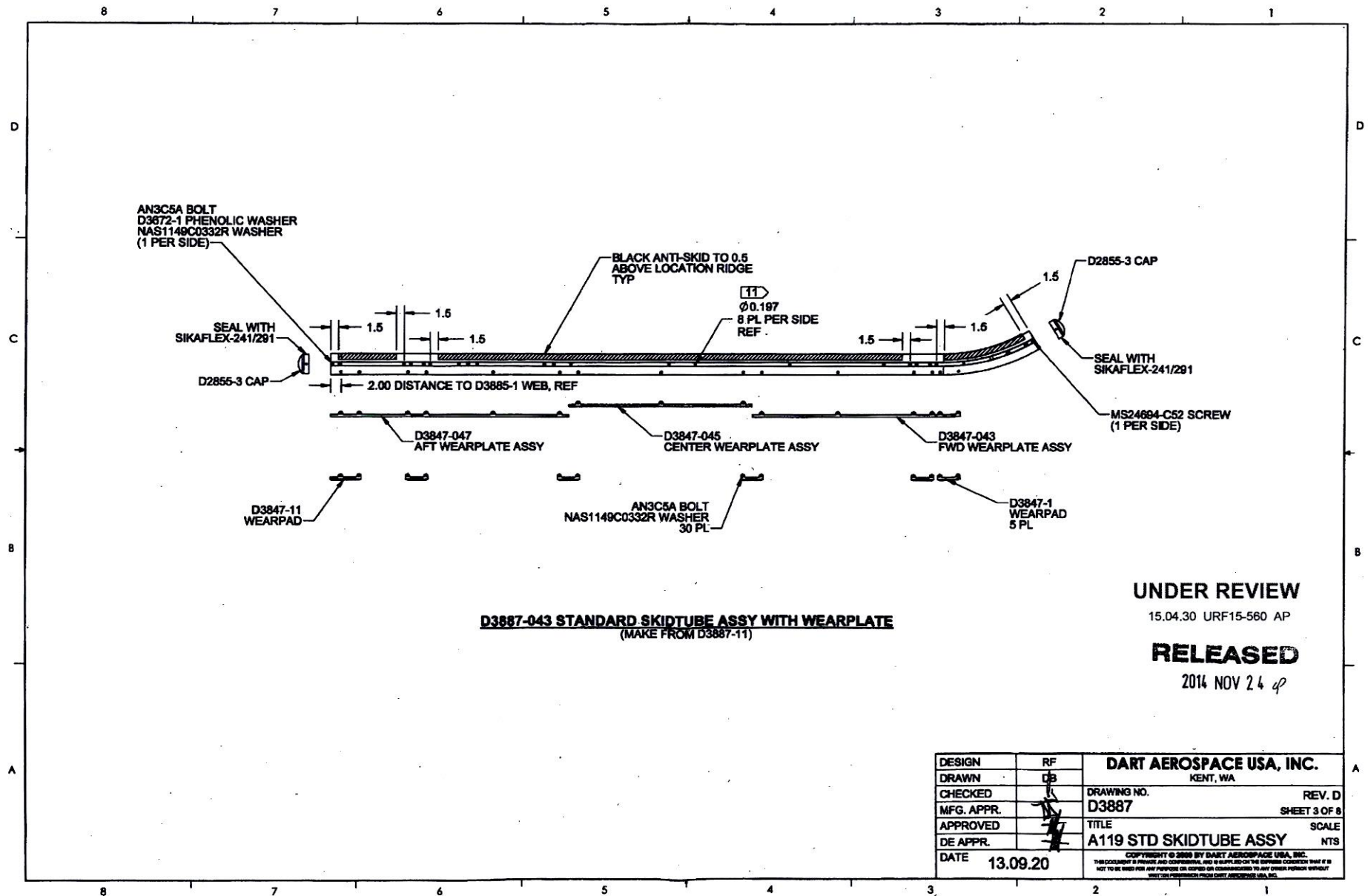
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15.04.30 URF15-560 AP

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2014 NOV 24 *q*

AN3C5A BOLT
D3672-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

AN3C46A BOLT
D3904-1 WASHER, 2 PL
MS21043-3 NUT
8 PL

D3849-043
AFT TRAINING WEARPLATE ASSY

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

1.5 1.5

2.00 DISTANCE TO D3885-1 WEB

1.5 1.5

1.5 D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24694-C52 SCREW
(1 PER SIDE)

D3849-041
FWD TRAINING WEARPLATE ASSY

UNDER REVIEW

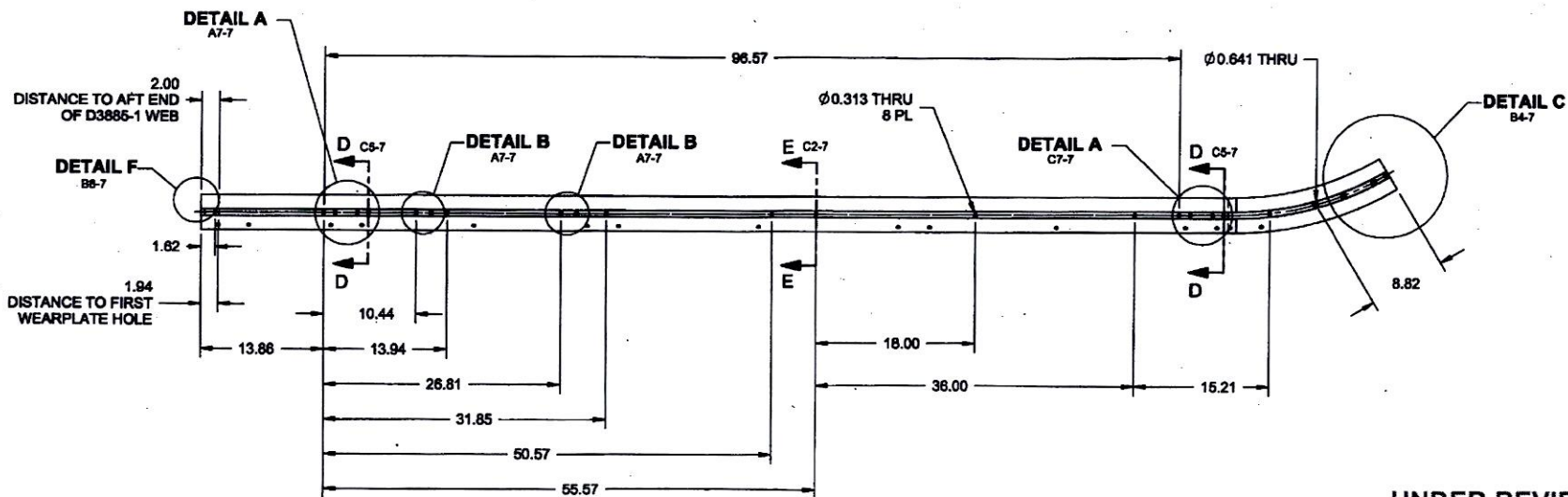
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D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3387-13)

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D3887-11 DRILLING DETAIL
(MAKE FROM D3887-1)

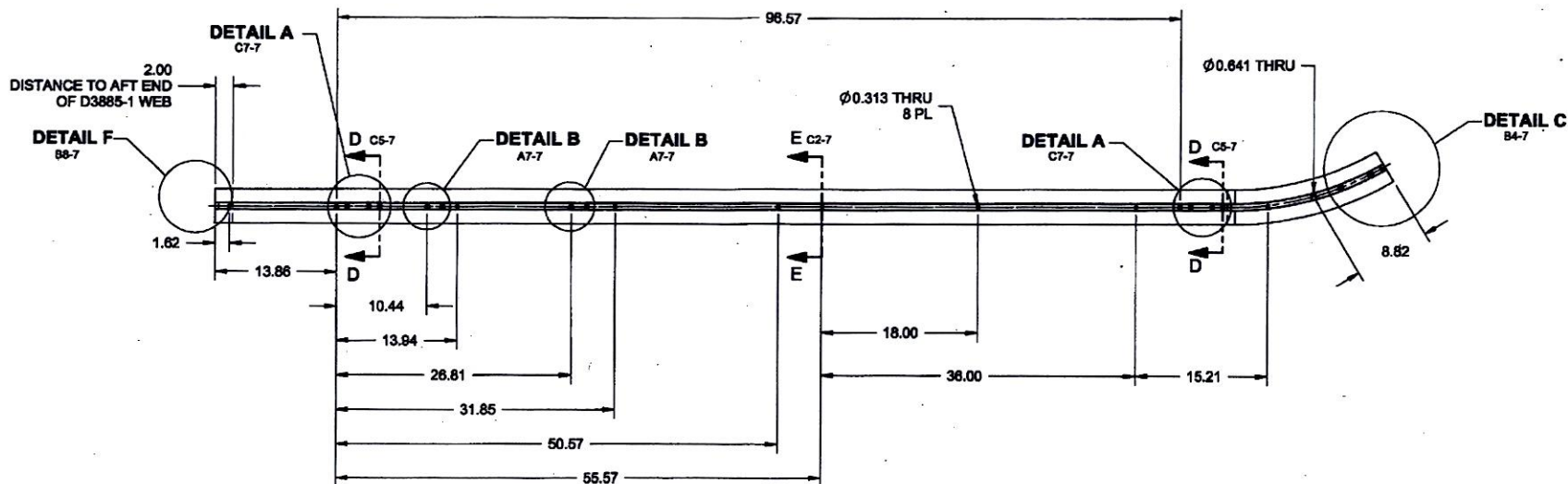
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D3887-13 DRILLING DETAIL
(MAKE FROM D3887-1)

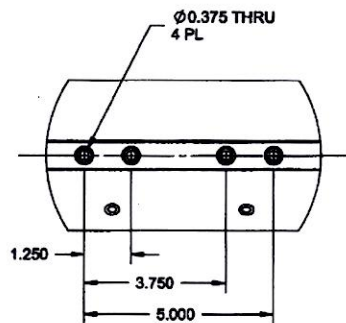
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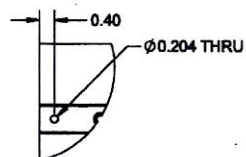
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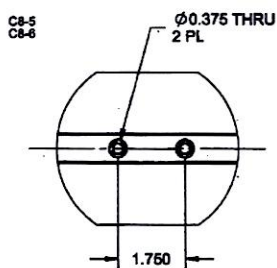


DETAIL A
SCALE 4X

D7-5
C3-5
D7-6
C3-6

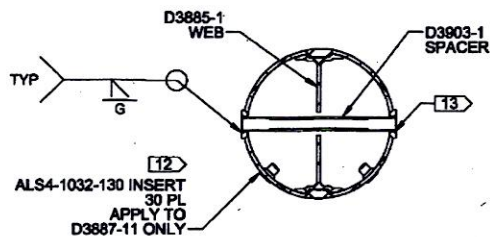


DETAIL F
SCALE 4X



DETAIL B
SCALE 4X

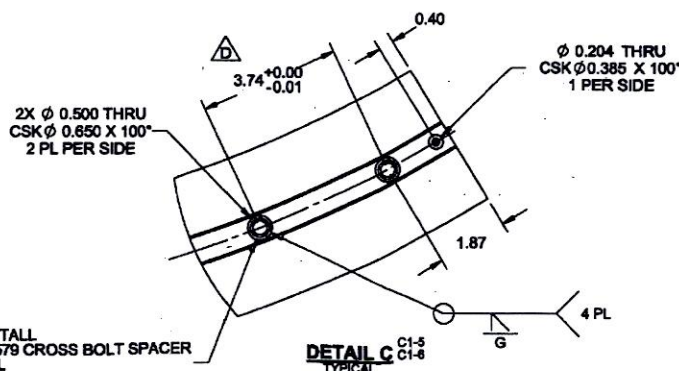
C6-6
C5-6
C6-6
C5-6



SECTION D-D
SCALE 4X

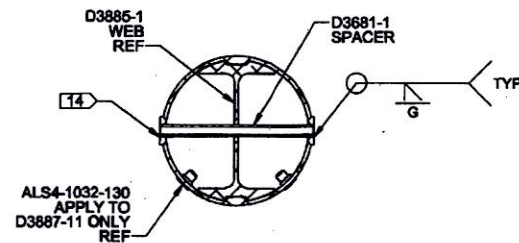
(FOR 12 X Ø0.375 HOLES
PER SKIDTUBE)

C7-5
C3-5
C7-6
C2-6



DETAIL C
TYPICAL
SCALE 4X

C1-5
C1-6



SECTION E-E
SCALE 4X
(FOR 8 X Ø0.313 HOLES
PER SKIDTUBE)

C4-5
C4-6

NOTES:

13) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:

- i) CHAMFER HOLES Ø0.475 x 45°
- ii) INSERT D3903-1 SPACER
- iii) WELD INTO PLACE AND GRIND FLUSH
- iv) CBORE TO 0.313 x 0.75 DEEP
- v) DEBURR HOLES

14) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:

- vi) CHAMFER HOLES Ø0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
- vii) INSERT D3681-1 SPACER
- viii) WELD INTO PLACE AND GRIND FLUSH
- ix) DEBURR HOLES

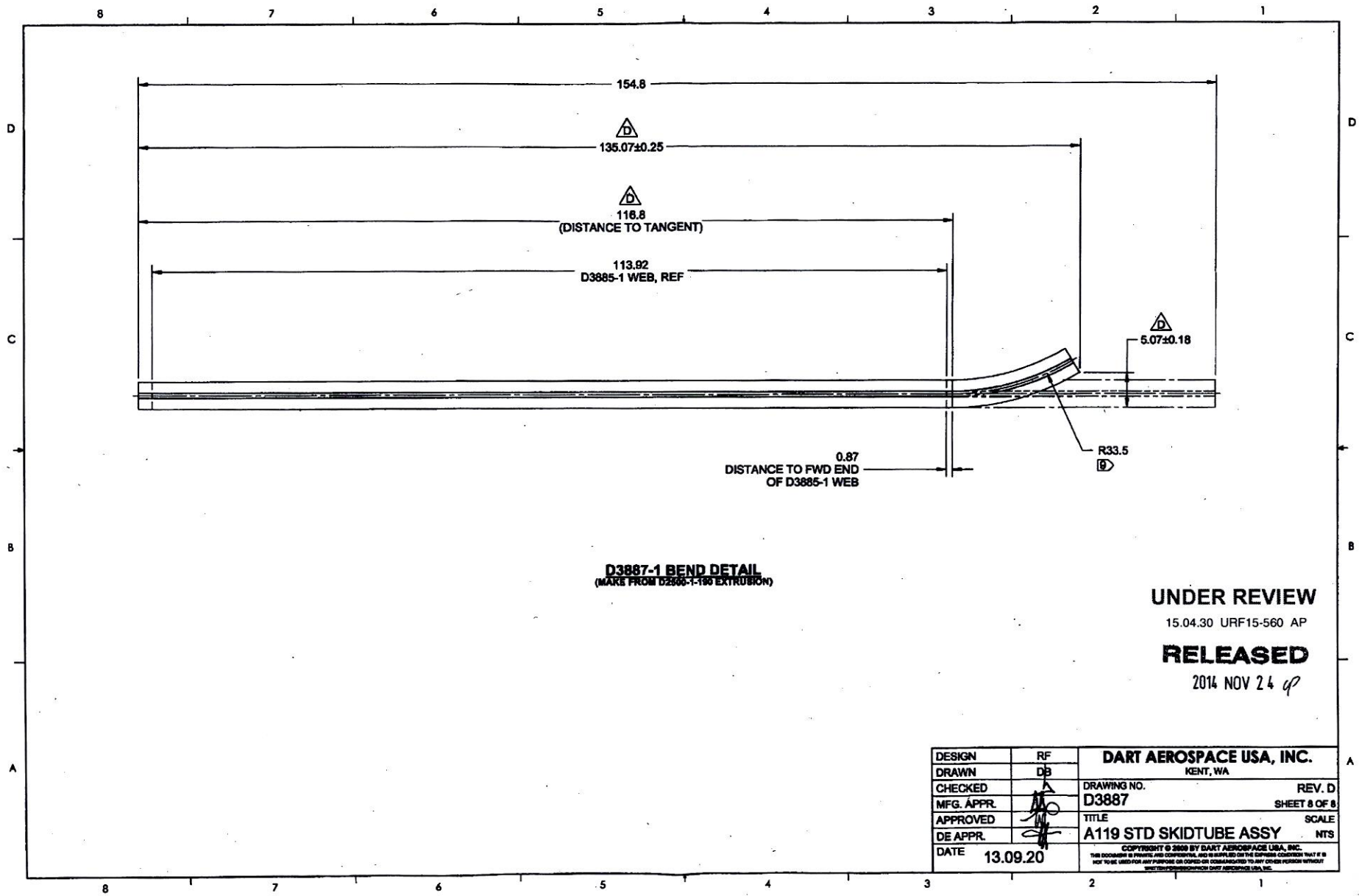
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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☒

Work Order: <u>148126</u> Part No. <u>D119-646-041</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☒</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date: <u>16/5/16</u>		Step #: <u>206</u>		QTY Effective: _____		MRB (QSI042) Approval DAS 12 9-89 <u>14/7/17</u>																			
Description Work Order Deviation				Disposition																					
No powder coat on saddle region per customer request.				Acceptable per attached Masking instructions																					
				Completed By																					
				Lead hand / Supervisor Approval Verification																					
				QC / QA Coordinator Approval																					

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				OTHER: <u>Customer</u>			

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☒

Work Order: <u>148126</u> Part No. <u>D119-646-041</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☒ Quality ☐ Other ☐				
Date : <u>16/3/16</u>		Step #: <u>240</u>		QTY Effective : _____		MRB (QSI042) Approval <u>DAS</u> <u>12</u> <u>9-99</u>		
Description Work Order Deviation Plug unused holes with AN3C4A Bolts rather than AN3CSA Bolts.				Disposition Acceptable AN3C-4A / M135058 (K6)				Completed By <u>16/10/03</u> Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐						
OTHER : _____								

